543.05
A 531
v. 11
chem.

ANALYTICAL ABSTRACTS

PUBLISHED BY

The Society for Analytical Chemistry

A MONTHLY JOURNAL DEALING
WITH ALL BRANCHES OF
ANALYTICAL CHEMISTRY

VOL. 11

1964

PUBLISHED FOR THE SOCIETY BY
W. HEFFER & SONS, LTD.
4, PETTY CURY, CAMBRIDGE, ENGLAND

227796

Mr

ANALYTICAL ABSTRACTS

EDITORIAL COMMITTEE

Chairman: A. G. JONES, B.Sc., F.R.I.C.

H. J. CLULEY, M.Sc., Ph.D., F.R.I.C.

B. A. ELLIS, O.B.E., M.A., F.R.I.C.

N. EVERS, B.Sc., Ph.D., F.R.I.C., Hon.M.P.S.

C. H. R. GENTRY, B.Sc., F.R.I.C.

C. A. JOHNSON, B.Pharm., B.Sc., F.P.S., F.R.I.C.

H. F. W. KIRKPATRICK, B.Sc., Ph.D., A.R.C.S., F.R.I.C.

J. E. PAGE, Ph.D., D.Sc., F.R.I.C.

B. J. WALBY, B.Sc., A.R.I.C.

W. A. WAYGOOD, M.Sc., A.R.C.S., F.R.I.C.

K. A. WILLIAMS, B.Sc., Ph.D., F.R.I.C., A.Inst.P.

AND THE PRESIDENT AND HONORARY OFFICERS

President of the Society

D. C. GARRATT, Ph.D., D.Sc., Hon.M.P.S., F.R.I.C.

Hon. Secretary of the Society

S. A. PRICE, B.Sc., F.R.I.C.

Hon. Treasurer of the Society

D. T. LEWIS, C.B., Ph.D., D.Sc., M.R.S.H., F.R.I.C.

Editor

Mrs. H. I. FISK, B.Sc.

Assistant Editor

B. HARRIS

JOURNALS

The following list contains the names of journals (and their abbreviations) from which papers have been abstracted regularly during the year. Journals that have been omitted are those that contain only an occasional analytical paper, and a number of Russian journals from which translated abstracts have been published through the medium of *Referativnyĭ Zhurnal*.

Acad. R.P.R., Baza Cercet. Ştiinţ. Timişoara, Stud. Cercet. Ştiinţ. Chim.	Academia Republicii Populare Romîne, Baza de Cercetări Ştiinţifice Timişoara, Studii şi Cercetări Ştiinţe Chimice
Acad. R.P.R., Stud. Cercet. Chim.	Academia Republicii Populare Romîne, Studii si Cercetări de Chimie
Acta Chem. Scand.	Acta Chemica Scandinavica
Acta Chim. Acad. Sci. Hung.	Acta Chimica Academiae Scientiarum Hungaricae
Acta Chim. Sinica	Acta Chimica Sinica
Acta Endocr., Copenhagen	Acta Endocrinologica [Copenhagen]
Acta Pharm. Hung.	Acta Pharmaceutica Hungarica
Acta Pharm. Jugosl.	Acta Pharmaceutica Jugoslavica
Acta Pharm. Tox., Kbh.	Acta Pharmacologica et Toxicologica [Copenhagen]
Acta Polon. Pharm.	Acta Poloniae Pharmaceutica
Adv. X-ray Anal.	Advances in X-ray analysis
Afinidad	Afinidad
Agric. Biol. Chem., Japan	Agricultural and Biological Chemistry, Japan
Amer. Brewer	American Brewer
Amer. Dyest. Rep.	American Dyestuff Reporter
Amer. Ind. Hyg. Ass. J.	American Industrial Hygiene Association Journal
Amer. J. Clin. Path.	American Journal of Clinical Pathology
Amer. Min.	American Mineralogist
Anal. Biochem.	Analytical Biochemistry
Anal. Chem.	Analytical Chemistry
Anal. Chim. Acta	Analytica Chimica Acta
Analyst	Analyst
Analyzer	Analyzer
An. Asoc. Quím. Argentina	Anales de la Asociación Química Argentina
An. Bromatologia	Anales de Bromatologia
Angew. Chem., Int. Ed.	Angewandte Chemie, International Edition
Annalen	Justus Liebigs Annalen der Chemie
Ann. Biol. Clin.	Annales de Biologie Clinique [Paris]
Ann. Chim., Roma	Annali di Chimica [Rome]
Ann. Falsif. Expert. Chim.	Annales des Falsifications et de l'Expertise Chimique
Ann. Pharm. Franç.	Annales Pharmaceutiques Françaises
Ann. Univ. Mariae Curie-Skłodowska, D	Annales Universitatis Mariae Curie-Skłodowska, D
An. Real Soc. Esp. Fís. Quím., B	Anales de la Real Sociedad Española de Física y Química, Serie B [Madrid]
An. Ştiinţ. Univ. "Al. I. Cuza", Iaşi, Sect. 1	Analele Ştiinţifice ale Universităţii "Al. I. Cuza" din Iaşi, Section 1
Antibiot. & Chemother.	Antibiotics and Chemotherapy
Antibiotiki	Antibiotiki [Moscow]
Appl. Optics	Applied Optics
Appl. Spectroscopy	Applied Spectroscopy
Arch. Biochem. Biophys.	Archives of Biochemistry and Biophysics
Arch. Eisenhüttenw.	Archiv für das Eisenhüttenwesen
Arch. Pharm., Berlin	Archiv der Pharmazie und Berichte der Deutschen pharmazeutischen Gesellschaft
Ark. Kemi	Arkiv för Kemi [Stockholm]
Arzneimittel-Forsch.	Arzneimittel-Forschung
Atomnaya Energiya	Atomnaya Energiya [Moscow]
Atompraxis	Atompraxis
Aust. J. Appl. Sci.	Australian Journal of Applied Science
B.C.I.R.A. Journal	B.C.I.R.A. Journal [British Cast Iron Research Association]
Beitr. Tabakforsch.	Beiträge zur Tabakforschung
Ber. dtsch. keram. Ges.	Bericht der deutschen keramischen Gesellschaft und des Vereins deutscher Email-fachleute e.V.
Biochem. Biophys. Res. Commun.	Biochemical and Biophysical Research Communications
Biochemistry	Biochemistry
Biochem. J.	Biochemical Journal
Biochem. Z.	Biochemische Zeitschrift
Biochim. Biophys. Acta	Biochimica et Biophysica Acta
Biokhimiya	Biokhimiya [Moscow]
Biul. Inst. Roślin Leczniczych	Biuletyn Instytutu Roślin Leczniczych
Boll. Lab. Chim. Provinciali	Bollettino dei Laboratori Chimici Provinciali [Bologna]
Boll. Soc. Ital. Biol. Sper.	Bollettino della Società Italiana di Biologia Sperimentale

JOURNALS

Brauwelt	Brauwelt
Brauwissenschaft	Brauwissenschaft
BrennstChemie	Brennstoff-Chemie
Brit. J. Appl. Phys.	British Journal of Applied Physics
Brit. Med. J.	British Medical Journal
Brit. Plast.	British Plastics
Bull. Chem. Soc. Japan	Bulletin of the Chemical Society of Japan
Bull. Inst. Nucl. Sci. Boris Kidrich, Belgrade	Bulletin of the Institute of Nuclear Sciences 'Boris Kidrich'
Bull. Res. Council Israel	Bulletin of the Research Council of Israel
Bull. Soc. Chim. Belg.	Bulletin des Sociétés Chimiques Belges
Bull. Soc. Chim. Biol.	Bulletin de la Société de Chimie Biologique
Bull. Soc. Chim. France	Bulletin de la Société Chimique de France
Bull. Soc. Pharm. Bordeaux	Bulletin de la Société de Pharmacie de Bordeaux
Canad. J. Biochem. Physiol.	Canadian Journal of Biochemistry and Physiology
Canad. J. Chem.	Canadian Journal of Chemistry
Cereal Chem.	Cereal Chemistry
Českosl. Farm.	Československá Farmacie
Chem. Age	Chemical Age
Chem. Anal., Warsaw	Chemia Analityczna [Warsaw]
Chem. Engng News	Chemical and Engineering News
ChemikerZtg	Chemiker-Zeitung—Chemische Apparatur
Chem. & Ind.	Chemistry & Industry
Chem.-Ing.-Tech.	Chemie-Ingenieur-Technik
Chemist Analyst	Chemist-Analyst
Chem. Listy	Chemické Listy [Prague]
Chem. Pharm. Bull., Japan	Chemical & Pharmaceutical Bulletin [Japan]
Chem. Průmysl	Chemický Průmsyl [Prague]
Chem. Tech., Berlin	Chemische Technik [Berlin]
Chem. Weekbl.	Chemisch Weekblad
Chem. Zvesti	Chemické Zvesti [Bratislava]
Chim. Anal.	Chimie Analytique
Chimia	Chimia [Switzerland]
Clin. Chem.	Clinical Chemistry [Baltimore, U.S.A.]
Clin. Chim. Acta	Clinica Chimica Acta
Coll. Czech. Chem. Commun.	Collection of Czechoslovak Chemical Communications
Compt. Rend.	Compte Rendu Hebdomadaire des Séances de l'Académie des Sciences
Compt. Rend. Acad. Agric. France	Compte Rendu Hebdomadaire des Séances de l'Académie d'Agriculture de France
Compt. Rend. Acad. Bulg. Sci.	Compte Rendu de l'Académie Bulgare des Sciences
Curr. Sci.	Current Science [India]
Dansk Tidsskr. Farm.	Dansk Tidsskrift for Farmaci
Dissert. Abstr.	Dissertation Abstracts
Dissert. Pharm., Kraków	Dissertationes Pharmaceuticae [Kraków]
Dokl. Akad. Nauk SSSR	Dokladȳ Akademii Nauk SSSR
Dtsch. ApothZtg	Deutsche Apotheker-Zeitung
Dtsch. LebensmittRdsch.	Deutsche Lebensmittel-Rundschau
Enzymologia	Enzymologia
Erdöl u. Kohle	Erdöl und Kohle, Erdgas, Petrochemie
Ernährungsforschung	Ernährungsforschung
Experientia	Experientia [Basle]
Farbe u. Lack	Farbe und Lack
Farmaco, Ed. Prat.	Farmaco, Edizione Pratica
Farmatsiya, Sofia	Farmatsiya [Sofia]
Farm. Polska	Farmacja Polska
Faserforsch. u. Textiltech.	Faserforschung und Textiltechnik
Fette, Seif., Anstrichmitt.	Fette, Seifen, Anstrichmittel
Forensic Sci. Soc. J.	Forensic Science Society Journal
Fuel, London	Fuel [London]
Geochim. et Cosmoch. Acta	Geochimica et Cosmochimica Acta [London]
Geokhimiya	Geokhimiya [Moscow]
Gidrokhim. Materialȳ	Gidrokhimicheskie Materialȳ
Gigiena i Sanit.	Gigiena i Sanitariya
Glas-Instrum.-Tech.	Glas-Instrumenten-Technik
Glastech. Ber.	Glastechnische Berichte
Grasas y Aceites	Grasas y Aceites [Seville]

JOURNALS

Helv. Chim. Acta	Helvetica Chimica Acta
Hilger J.	Hilger Journal
Hlth Phys.	Health Physics
Hutn. Listy	Hutnické Listy [Prague]
Ind. Chem.	Industrial Chemist
Indian J. Appl. Chem.	Indian Journal of Applied Chemistry
Indian J. Chem.	Indian Journal of Chemistry
Indian J. Dairy Sci.	Indian Journal of Dairy Science
Indian J. Pharm.	Indian Journal of Pharmacy
Indian J. Technol.	Indian Journal of Technology
Inf. Quim. Anal.	Información de Química Analitica [Madrid]
Inorg. Chem.	Inorganic Chemistry
Inst. Hierro y Acero	Instituto del Hierro y del Acero
Instrum. & Control Systems	Instruments & Control Systems
Int. J. Appl. Radiation Isotopes	International Journal of Applied Radiation and Isotopes
Int. Sugar J.	International Sugar Journal
Israel J. Chem.	Israel Journal of Chemistry
Ital. J. Biochem.	Italian Journal of Biochemistry
Izv. Akad. Nauk ArmSSR, Khim. Nauk.	Izvestiya Akademii Nauk Armyanskoĭ SSR, Khimicheskie Nauki
Izv. Akad. Nauk SSSR, Otdel. Khim. Nauk	Izvestiya Akademii Nauk SSSR, Otdelenie Khimicheskikh Nauk
Izv. Vŷssh. Ucheb. Zavedeniĭ, Khim. i Khim. Tekhnol.	Izvestiya Vŷsshikh Uchebnŷkh Zavedeniĭ, Khimiya i Khimicheskaya Tekhnologiya
J. Agric. Chem. Soc. Japan	Journal of the Agricultural Chemical Society of Japan
J. Agric. Food Chem.	Journal of Agricultural and Food Chemistry [Washington, D.C.]
J. Amer. Chem. Soc.	Journal of the American Chemical Society
J. Amer. Oil Chem. Soc.	Journal of the American Oil Chemists' Society
J. Amer. Wat. Wks Ass.	Journal of the American Water Works Association
Japan Analyst	Japan Analyst
J. Appl. Chem.	Journal of Applied Chemistry [London]
J. Appl. Polymer Sci.	Journal of Applied Polymer Science
J. Ass. Off. Agric. Chem.	Journal of the Association of Official Agricultural Chemists
J. Ass. Publ. Analysts	Journal of the Association of Public Analysts
J. Atomic Energy Soc. Japan	Journal of the Atomic Energy Society of Japan
J. Biol. Chem.	Journal of Biological Chemistry
J. Chem. Educ.	Journal of Chemical Education
J. Chem. Soc.	Journal of the Chemical Society
J. Chem. Soc. Japan, Ind. Chem. Sect.	Journal of the Chemical Society of Japan, Industrial Chemistry Section
J. Chim. Phys.	Journal de Chimie Physique
J. Chinese Chem. Soc.	Journal of the Chinese Chemical Society [Taiwan]
J. Chromatography	Journal of Chromatography
J. Dairy Res.	Journal of Dairy Research
J. Dairy Sci.	Journal of Dairy Science
J. Electroanal. Chem.	Journal of Electroanalytical Chemistry
J. Electrochem. Soc., N.Y.	Journal of the Electrochemical Society [New York]
J. Endrocrin.	Journal of Endocrinology
J. Forensic Sci.	Journal of Forensic Sciences
J. Gas Chromatography	Journal of Gas Chromatography
J. Indian Chem. Soc.	Journal of the Indian Chemical Society
J. Inst. Brewing	Journal of the Institute of Brewing
J. Inst. Fuel	Journal of the Institute of Fuel
J. Inst. Met.	Journal of the Institute of Metals
J. Instn Chem., India	Journal and Proceedings of the Institution of Chemists [India]
J. Inst. Petrol.	Journal of the Institute of Petroleum
J. Iron St. Inst.	Journal of the Iron and Steel Institute
J. Japan Inst. Metals, Sendai	Journal of the Japan Institute of Metals [Sendai]
J. Lab. Clin. Med.	Journal of Laboratory and Clinical Medicine
J. Lipid Res.	Journal of Lipid Research [Washington, D.C.]
J. Med. Lab. Technol.	Journal of Medical Laboratory Technology
J. Metal Finishing Soc. Japan	Journal of the Metal Finishing Society of Japan
J. Org. Chem.	Journal of Organic Chemistry
J. Pharmacol.	Journal of Pharmacology and Experimental Therapeutics
J. Pharm. Pharmacol.	Journal of Pharmacy and Pharmacology
J. Pharm. Sci.	Journal of Pharmaceutical Science
J. Pharm. Soc. Japan	Journal of the Pharmaceutical Society of Japan
J. Phys. Chem.	Journal of Physical Chemistry
J. Polarographic Soc.	Journal of the Polarographic Society
J. prakt. Chem.	Journal für praktische Chemie

JOURNALS

J. Res. Nat. Bur. Stand., A	Journal of Research of the National Bureau of Standards, Section A
J. Sci. Food Agric.	Journal of the Science of Food and Agriculture
J. Sci. Ind. Res., India	Journal of Scientific and Industrial Research [India]
J. Sci. Instrum.	Journal of Scientific Instruments
J. Soc. Cosmet. Chem.	Journal of the Society of Cosmetic Chemists
J. Soc. Leath. Tr. Chem.	Journal of the Society of Leather Trades' Chemists
J. Soil Sci.	Journal of Soil Science
J. Wat. Pollut. Control Fed.	Journal of the Water Pollution Control Federation
Kem. u Ind., Zagreb	Kemija u Industriji [Zagreb]
Khlebopekar. i Konditer. Prom.	Khlebopekarnaya i Konditerskaya Promÿshlennost [USSR]
Klin. Wochschr.	Klinische Wochenschrift
Kohászati Lapok	Kohászati Lapok [Budapest]
Lab. Delo	Laboratornoe Delo [Moscow]
Lab. Practice	Laboratory Practice
Lancet	Lancet
Limnol. Oceanogr.	Limnology and Oceanography
Listy Cukr.	Listy Cukrovarnické [Prague]
Magyar Kém. Foly.	Magyar Kémiai Folyóirat
Magyar Kém. Lapja	Magyar Kémikusok Lapja
Makromol. Chem.	Makromolekulare Chemie
Maslob.-Zhir. Prom.	Masloboĭno-Zhirovaya Promÿshlennost [USSR]
Materialprüfung	Materialprüfung
Mater. Res. & Stand.	Materials Research and Standards
Medd. Norsk Farm. Selsk.	Meddelelser fra Norsk Farmaceutisk Selskap
Med. Sci. & Law	Medicine, Science and the Law
Mém. Poudres	Mémorial des Poudres
Metal Finish.	Metal Finishing
Metallurgia, Manchr	Metallurgia [Manchester]
Metallurg. Ital.	Metallurgia Italiana [Milan]
Mfg Chemist	Manufacturing Chemist
Microchem. J.	Microchemical Journal
Mikrochim. Ichnoanal. Acta	Mikrochimica et Ichnoanalytica Acta [Vienna]
Mitt. (Klosterneuburg), Ser. A, Rebe Wein	Mitteilungen (Klosterneuburg), Serie A, Rebe und Wein
Mitt. Lebensmitt. Hyg., Bern	Mitteilungen aus dem Gebiete der Lebensmitteluntersuchung und Hygiene [Bern]
Moloch. Prom.	Molochnaya Promÿshlennost
Monatsh. Chem.	Monatshefte für Chemie und verwandte Teile anderer Wissenschaften [Vienna]
Mschr. Brauerei	Monatsschrift für Brauerei
Nahrung	Nahrung
Nature	Nature [London]
Naturwissenschaften	Naturwissenschaften
Neftekhimiya	Neftekhimiya [USSR]
Neth. Milk Dairy J.	Netherlands Milk and Dairy Journal
Neue Hütte	Neue Hütte
Norsk Skogind.	Norsk Skogindustri
Nucl. Sci. Engng	Nuclear Science and Engineering
N. Z. J. Agric. Res.	New Zealand Journal of Agricultural Research
N. Z. J. Sci.	New Zealand Journal of Science
Off. Dig., Fed. Soc. Paint Technol.	Official Digest, Federation of Societies for Paint Technology
Olearia	Olearia
Optika i Spektroskopiya	Optika i Spektroskopiya [USSR]
Öst. ChemZtg	Österreichische Chemiker-Zeitung
Pakistan J. Sci. Res.	Pakistan Journal of Scientific Research
Paper Mkr, London	Paper Maker [London]
Path. Biol. Semaine Hôp.	Pathologie et Biologie, La Semaine des Hôpitaux
Peint.-Pigm.-Vern.	Peintures-Pigments-Vernis
Perfum. Essent. Oil Rec.	Perfumery and Essential Oil Record
Period. Polytech.	Periodica Polytechnica [Budapest]
Pharm. Acta Helv.	Pharmaceutica Acta Helvetiae
Pharmazie	Pharmazie
Pharm. Weekbl.	Pharmaceutisch Weekblad
Pharm. Zentralh.	Pharmazeutische Zentralhalle für Deutschland
Photoelect. Spectr. Gr. Bull.	Photoelectric Spectrometry Group Bulletin
Plaste u. Kautsch.	Plaste und Kautschuk
Plast. Massÿ	Plasticheskie Massÿ [USSR]
Plating	Plating

Pochvovedenie	Pochvovedenie [USSR]
Prace Inst. Hutn.	Prace Instytutow Hutniczych [Katowice]
Proc. Amer. Soc. Brew. Chem.	Proceedings of the American Society of Brewing Chemists
Proc. Indian Acad. Sci., A	Proceedings of the Indian Academy of Sciences, A
Proc. Res. Soc. Japan Sugar Refineries' Technologists	Proceedings of the Research Society of Japan Sugar Refineries' Technologists
Proc. Soc. Exp. Biol. Med.	Proceedings of the Society for Experimental Biology and Medicine
Průmysl Potravin	Průmysl Potravin [Prague]
Pure & Appl. Chem.	Pure and Applied Chemistry
Quim. e Ind., Bilbao	Química e Industria [Bilbao]
Radiochim. Acta	Radiochimica Acta
Radiokhimiya	Radiokhimiya
R.C. Ist. Sup. Sanit.	Rendiconti Istituto Superiore di Sanità
Rec. Trav. Chim. Pays-Bas	Recueil des Travaux Chimiques des Pays-Bas
Rep. Gov. Ind. Res. Inst., Nagoya	Reports of the Government Industrial Research Institute, Nagoya
Rep. Invest. U.S. Bur. Min.	Report of Investigations. U.S. Bureau of Mines
Rev. Chim., Acad. R.P.R.	Revue de Chimie, Académie de la République Populaire Roumaine
Rev. Chim., Bucharest	Revista de Chimie [Bucharest]
Rev. Port. Quím.	Revista Portuguesa de Química
Rev. Sci. Instrum.	Review of Scientific Instruments
Rev. Univ. Ind. Santander, Colombia	Revista de la Universidad de la Industrial de Santander [Colombia]
Ric. Sci., R.C., A	Ricerca Scientifica, Rendiconte, Section A
Riechstoffe u. Aromen	Riechstoffe und Aromen
Riv. Ital. Sostanze Grasse	Rivista Italiana delle Sostanze Grasse
Roczn. Zakł. Hig., Warsaw	Roczniki Panstwowego Zakładu Higieny [Warsaw]
S. Afr. J. Agric. Sci.	South African Journal of Agricultural Science
Sb. Trud., Gos. Nauch.-Issled. Inst. Tsvet. Met.	Sbornik Trudov, Gosudarstvennŷi Nauchno-Issledovatel'skiĭ Institut Tsvetnŷkh Metallov
Sb. Trud., Tsentr. Nauch.-Issled. Inst. Chern. Metallurg.	Sbornik Trudov, Tsentral'nogo Nauchno-Issledovatel'skogo Instituta Chernoĭ Metallurgiĭ
Sb. Věd. Prac., Vysoké Šk. Chem.-Technol., Pardubice	Sborník Vědeckých Prací Vysoké Školy Chemicko-Technologické v Pardubících
Sb. Vys. Šk. Chem.-Technol., Odd. Fak. Potrav. Technol.	Sborník Vysoké Školy Chemicko-Technologické v Praze, Oddíl Fakulty Potravinareske Technologie
Scand. J. Clin. Lab. Invest.	Scandinavian Journal of Clinical & Laboratory Investigation
Sci. & Cult.	Science and Culture [Calcutta]
Science	Science [New York]
Sci. Pharm.	Scientia Pharmaceutica [Vienna]
Sci. Tools	Science Tools
Sklář a Keram.	Sklář a Keramik [Prague]
Soap Chem. Specialties	Soap and Chemical Specialties
Spectrochim. Acta	Spectrochimica Acta
Stärke	Stärke
Steroids	Steroids
Stud. Cercet. Chim., Cluj	Studii şi Cercetări de Chimie [Cluj]
Stud. Cercet. Ştiinţ. Chim., Iaşi	Studii şi Cercetări Ştiinţe Chimice, Iaşi
Stud. Univ. Babeş-Bolyai, Cluj, Chim.	Studia Universitatis Babeş-Bolyai, Cluj, Chimie
Suomen Kem.	Suomen Kemistilehti [Helsinki]
Svensk Papp-Tidn.	Svensk Papperstidning [Stockholm]
Talanta	Talanta
TAPPI	Journal of the Technical Association of the Pulp and Paper Industry
Trans. Brit. Ceram. Soc.	Transactions of the British Ceramic Society
Trans. Instn Chem. Engrs	Transactions of the Institution of Chemical Engineers
Trans. Instn Min. Metall., London	Transactions of the Institution of Mining and Metallurgy [London]
Trans. Nat. Res. Inst. Met., Japan	Transactions of the National Research Institute for Metals [Japan]
Trib. Cebedeau	Tribune du Cebedeau
Trudŷ Dnepropetrovsk. Khim.-Tekhnol. Inst.	Trudŷ Dnepropetrovskogo Khimiko-Tekhnologicheskogo Instituta
Trudŷ Inst. Metallurg., Akad. Nauk SSSR	Trudŷ Instituta Metallurgiĭ, Akademiya Nauk SSSR
Trudŷ Kazakhsk. Nauch.-Issled. Inst. Mineral. Sŷr'ya	Trudŷ Kazakhskogo Nauchno-Issledovatel'skogo Instituta Mineral'nogo Sŷr'ya

JOURNALS

Trudy Komiss. Anal. Khim., Akad. Nauk SSSR	Trudy Komissii po Analiticheskoĭ Khimii, Akademiya Nauk SSSR
Trudy Novocherk. Politekh. Inst.	Trudy Novocherkasskogo Politekhnicheskogo Instituta imeni Sergo Ordzhonikidze
Trudy Tomsk. Univ.	Trudy Tomskogo Gosudarstvennogo Universiteta
Trudy Ural'sk. Politekh. Inst.	Trudy Ural'skogo Politekhnicheskogo Instituta
Ukr. Fiz. Zhur.	Ukrainskiĭ Fizichniĭ Zhurnal
Ukr. Khim. Zhur.	Ukrainskiĭ Khimicheskiĭ Zhurnal
Unicam Spectrovision	Unicam Spectrovision
U.S. Atomic Energy Comm.	United States Atomic Energy Commission Reports
U.S. Geol. Surv., Profess. Papers	United States Department of the Interior, Geological Survey. Professional Papers
Vestn. Leningr. Univ., Ser. Fiz. i Khim. ..	Vestnik Leningradskogo Universiteta, Seriya Fiziki i Khimii
Vestn. Moskov. Univ., Ser. Khim. ..	Vestnik Moskovskogo Universiteta, Seriya Khimiya
Vinodelie i Vinogradarstvo SSSR	Vinodelie i Vinogradarstvo SSSR
Wat. Sewage Wks	Water & Sewage Works
Z. anal. Chem.	Zeitschrift für analytische Chemie
Z. anorg. Chem.	Zeitschrift für anorganische (und allgemeine) Chemie
Zavod. Lab.	Zavodskaya Laboratoriya [Moscow]
Z. Chem.	Zeitschrift für Chemie
Z. Erzbergb. Metallhüttenw.	Zeitschrift für Erzbergbau und Metallhüttenwesen
Zhur. Anal. Khim.	Zhurnal Analiticheskoĭ Khimii
Zhur. Neorg. Khim.	Zhurnal Neorganicheskoĭ Khimii
Zhur. Obshch. Khim.	Zhurnal Obshcheĭ Khimii
Zhur. Prikl. Khim.	Zhurnal Prikladnoĭ Khimii
Zhur. Vses. Khim. Obshch. im. D. I. Mendeleeva	Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleeva
Z. LebensmittUntersuch.	Zeitschrift für Lebensmittel-Untersuchung und -Forschung
Z. Naturforsch.	Zeitschrift für Naturforschung
Z. physiol. Chem.	Zeitschrift für physiologische Chemie
Zucker	Zucker

ACKNOWLEDGEMENTS

The organisations publishing the following journals are thanked for allowing reproduction of some abstracts.

Abstract Bulletin of the Institute of Paper Chemistry
Aluminium Abstracts
Chemical Abstracts
Fuel Abstracts and Current Titles
Journal of the Institute of Brewing Abstracts
Journal of the Institute of Petroleum Abstracts
Nuclear Science Abstracts
Nutrition Abstracts and Reviews
Referativnyĭ Zhurnal, Khimiya, Sections 19GDE and 19R
Review of Current Literature on the Paint and Allied Industries
Rubber Abstracts
Sugar Industry Abstracts
Water Pollution Abstracts

ERRATA

Some errata subsequently published in the journals abstracted are included in the following list.
When the initials of given names in the Author index and in the abstracts do not agree, the Index should be assumed to be correct.

VOL. 6, 1959

Index, p. liii, column 2, line 9, *the number of the abstract in the entry for* **Jankovský, J.**, *should be* 4313, *not* 4312.

VOL. 9, 1962

Index, p. xlv, column 1, line 71, *the number of the abstract in the entry for* **Grekov, A. P.**, and **Marakhova, M. S.** *should be* 2802, *not* 2082.
Index, p. lxxxviii, column 1, line 8, *for* **Nakashima, E.**, *read* **Nakashima, F.**
Index, p. xcviii, column 1, line 44, *the number of the second abstract in the entry for* **Pohloudek-Fabini, R.**, and **Wollmann, H.**, *should be* 1272, *not* 1279.

VOL. 10, 1963

Index, p. iv, column 1, line 30, *for* **Aguilera, P. A.** *read* **Aguilera P., A.**
Index, p. xxxiv, column 1, line 54, *for* **Dunn, H. D.**, *read* **Dunn, J. D.**
Index, p. xliv, column 1, entry for **Geilmann, W.**, and **Tölg, G.**, lines 4 and 5, *delete* V. Determination of sodium and potassium oxide content, 1442;
Index, p. li, column 1, line 11, *this line should read* **Hakkila, E. A.**, and **Waterbury, G. R.** [Developments
Index, p. liii, column 1, *transpose the entry for* **Hayes, T. J.**, and **Hamlin, A. G.** *so that it precedes the entry for* **Hayes, W. J., jun.** *in column* 2.
Index, p. liii, column 2, line 1, *for* **Hayes, T. J.**, *read* **Hayes, M. R.**,
The page before p. lxiii *should be numbered* lxii, *not* xii
Index, p. lxii, column 1, *insert* **Johnson, W. C.** Colorimetric reagents, 5034. *immediately after the entry for* **Johnson, W.**, and **Andrews, K. W.**
Index, p. lxii, column 1, entry for **Johnson, W. C., jun.**, lines 3 and 4, *delete* Colorimetric reagents, 5034.
The page before p. lxxxiii *should be numbered* lxxxii, *not* xxxii
Index, p. lxxxv, column 2, entry for **Matthews, J. S.**, line 6, *for* **Pereda, V. A. L.**, and **Aguilera, P. A.** *read* **Pereda V., A. L.**, and **Aguilera P., A.**
Index, p. xciii, column 2, *delete the entry for* **Nakajima, F.**, and **Sakai, Kaoru.**
Index p. xciii, column 2, *insert*—and **Sakai, Kaoru.** Spectrophotometric determination of trace amounts of metals. I. Analysis of iron with bathophenanthroline, 2273. *immediately after the entry for* **Nakashima, F.**
Index, p. cii, column 1, line 2, *for* **Pereda, V. A. L.** *read* **Pereda V., A. L.**
Index, p. cxii, column 2, line 66, *for* **Nakajima, F.** *read* **Nakashima, F.**
Index, p. cl, column 2, line 25, for **Alizarin blue.** *read* **Alizarin blue S.**
Index, p. cliv, column 2, line 68, *for* **Azobutyronitrile** *read* **Azodi-isobutyronitrile**
Index, p. ccix, column 1, line 72, *for* azobutyronitrile *read* azodi-isobutyronitrile
Index, p. ccxx, column 1, entry for **Spectrography, emission,** line 13, *for* d.c., arc conversion factor for constant-temp. *read* d.c. arc, conversion factor for constant-temp.

Abstract No.	*Line*	
622	2	*for* G. H. Fay *read* G. H. Faye
763	2	*for* P. De Moor *read* P. de Moor
763	2	*for* P. Deckx *read* R. Deckx
2273	3	*for* Fumito Nakajima *read* Fumito Nakashima
3305	2	*for* D. Higgins *read* D. Huggins
3350	1, 2	*for* **azobutyronitrile** *read* **azodi-isobutyronitrile**
3350	4	*for* Azobutyronitrile *read* Azodi-isobutyronitrile
4023	65	*for* E. D. Pierson *read* E. D. Pierron
5391	3	*for* Hisashi Ichibangase *read* Hisashi Ichibagase

Appropriate modifications should be made to the Author Index, Vol. 10, 1963.

VOL. 11, 1964

Abstract No.	*Line*	
2	44	*for* –. Pfeil *read* E. Pfeil
50	2	*for* Katsunori Norishima *read* Katsusuki Norishima
97	3	*for* Mohan Katyla *read* Mohan Katyal
327	1, 2	*for* Masao Mauryama *read* Masao Maruyama
500	3	*after* Ming-o Fang *insert* (V. I. Vernadsky Inst. of Geochem. and Anal.
500	5	*delete complete line*
501	2	*for* A. M. Cabrera *read* A. Cabrera-Martín
505	4	*for* **EDTA** read **EGTA**
539	2	*for* **1-(2-pyridylazo)resorcinol.** *read* **4-(2-pyridylazo)resorcinol.**
539	6	*for* 1-(2-pyridylazo)resorcinol *read* 4-(2-pyridylazo)resorcinol

ERRATA

616 2 *for* S. A. Bartkiewisc *read* S. A. Bartkiewicz
620 5 *for* *J. Amer. Chem. Soc.* read *J. Amer. Oil Chem. Soc.*
629 10 *for* $(NH_4)_2S_2O_1$. *read* $(NH_4)_2S_2O_8$.
669 3, 4 *for* B. Truhaut *read* R. Truhaut
778 3 *for* T. A. Ballar. *read* T. A. Bellar.
795 14 *for* either *read* ether
828 2, 3 *for* R. K. Stephens *read* R. K. Stevens
833 3 *for* F. A. Olsen *read* F. A. Olson
874 19 *for* $NaBrO^3$ *read* $NaBrO_3$
888 2 *for* G. V. Pasovskaya *read* G. B. Pasovskaya
933 9 *for* 0·004M-$Th(NO_3)_2$ *read* 0·004M-$Th(NO_3)_4$
971 17 *for* 874 *read* 890
990 25 *insert* or *before* carbonyl

1052 7 *after* 1·7 ml *insert* of glucose oxidase soln. containing 44 ml of water, 1 ml
1066 2 *for* **dimethylaminoguanine** *read* ***NN*-dimethylguanine**
1066 6 *for* Dimethylaminoguanine *read* Dimethylguanine
1066 26, 27 *for* methylaminoguanine *read* *N*-methylguanine
1103 2 *for* C. Merrit *read* C. Merritt
1115 27 *delete the complete line*
1119 4 for *Soumen Kem., B.* read *Suomen Kem., B.*
1274 4 *for* F. Palomares Delgardo *read* F. Palomares Delgado
1289 10, 11 *for* 4N-HCl - butanol - acetic acid - H_2O (1 : 1 : 1 :) *read* 4N-HCl - butanol - acetic acid - acetone (1 : 1 : 1 : 1)
1340 1 *insert* **Chloromethyl compounds. II.** *before* **Column-chromatographic**
1371 2 *after* **media.** *insert* **I.**
1481 3 *for* C. W. Elliot *read* C. W. Elliott
1507 25 *for* detected *read* detached
1581 7 *for* 0·002 to 1% of O *read* 0·003 to 1% of O
1636 12, 13 *after* Zn - 1,2-bis-(2-aminoethoxy)ethane-*NNN'N'*-tetra-acetic acid *insert* with
1705 2 *for* Yuji Yokayama *read* Yuji Yokoyama
1751 5 *for* A. Nakhu *read* A. Naku
1785 4 *for* M. L. Vlodevets *read* M. L. Vlodavets
1795 2, 3 *for* S. V. Syaztsillo *read* S. V. Syavtsillo
1825 2 *for* V. G. Bezuglȳi read V. D. Bezuglȳi
1922 3 *for* Red Nos. 6 and 7 (C.I. Pigment Red 57, Na and Ca *read* **Red Nos. 6 and 7).** L. Koch (H. Kohnstamm
1984 2 *for* D. C. Mackay *read* D. C. MacKay

2141 1 *for* **Spectrographic** *read* **Spectrophotometric**
2217 20 *for* −1·5%. *read* ± 1·5%.
2232 2 *for* **macrorhizum** *read* **macrorrhizum**
2261 3 *for* 1963, **7** (1), 53–60; *read* 1963, **12** (1), 53–60;
2298 9 *for* The dye is eluted with *read* The dyed portions of the strips are dissolved separately in
2333 2 *for* B. Vasilev *read* B. Vasileva
2372 4 *for* **honey** *read* **apples**
2391 3 *for* B. De Vries *read* B. de Vries
2476 2 *for* M. Marková *read* V. Marková
2504 10 *for* 0·25% for Ni or Cu *read* 0·25% for Ni or Co
2572 3 *for* Sh. I. Peĭzulayev *read* Sh. I. Peĭzulaev
2624 2 *for* **indium** *read* **iridium**
2729 15 *for* or 4 ml of c.s.f. *read* or 4 ml for c.s.f.
2961 3 *for* I. A. Gur'iev *read* I. A. Gur'ev

3054 1 *for* V. Bogs *read* U. Bogs
3327 4 *for* S. Jacquard *read* S. Jaquard
3368 3 *for* A. Godedy Mur *read* A. Goded y Mur
3373 2 *for* E. D. Mookherjee *read* B. D. Mookherjee
3445 2 *for* H. L. MacDonell *read* H. L. Macdonell
3482 39, 40 *for* C. McLaughlin *read* D. McLaughlin
3483 3 *for* DP-798 *read* DP-831
3507 3 *for* T. Mirecka *read* L. Łabędź
3511 2 *delete* **lactate**
3524 16 *for* although total Na plus Li can be determined). *read* (although total Na plus Li can be determined).
3587 2 *for* **lactate. IV. Nitroprusside of ethacridine lactate.** *read* **IV. Nitroprusside of ethacridine.**
3587 7 *delete* of $\mathbf{II}_2Fe(CN)_5NO$.
3655 2, 3 *for* P. Tölgyessy *read* J. Tölgyessy
3772 3 for *Rev. Fac. Bioquim., S. Paulo,* read *Rev. Fac. Farm. Bioquim., S. Paulo,*
3789 1, 2 *for* **(polychloro)vinyl and perchlorovinyl resins** *read* **poly(vinyl chloride) and chlorinated poly(vinyl chloride) resins**
3802 4 *for* **17** (18), *read* **18** (17),

ERRATA

3853 7 *for* glutamate (**I**) + NAD^+ + H_2O—α-oxoglutarate (**II**) *read* glutamate (**I**) + $NAD^+ + H_2O \rightleftharpoons$ α-oxoglutarate (**II**)

3893 21, 22 *for* 4,6,4$_1$-trihydroxy-3′,5′-dimethoxyaurone. *read* 4,6,4′-trihydroxy-3′,5′-dimethoxyaurone.

3946 9 *this line should read* acetate buffer soln. (pH 5) (20 ml), diluted with

3993 4 *for* E. Sawacki *read* E. Sawicki

4014 23 *for* three samples *read* three varieties of grass

4021 1 *delete* (*before* **methyl-**

4032 4 for *Rev. Fac. Bioquim., S. Paulo*, read *Rev. Fac. Farm. Bioquim., S. Paulo,*

4047 4 for *Rev. Fac. Bioquim., S. Paulo*, read *Rev. Fac. Farm. Bioquim., S. Paulo,*

4061 3 *for* A. G. Povov *read* A. G. Popov

4131 4, 5 *for* Z. Stránkský *read* Z. Stránský

The number of the abstract after 4158 *should be* 4159, *not* 5159.

4196 16, 17 *for* in connc. <0·2 their *read* in concn. <0·2%, their

4203 3, 4 for *Izv. Geol. Inst. 'Strashimir Dimitrov'*, read *Izv. Geol. Inst., Bulg. Akad. Nauk.*,

4252 34 *for* and mi *read* and mix

4274 4 *for* 19–28. *read* 19–24.

4275 4 *for* 28–30. *read* 25–30.

4298 15 *for* (1:100, *read* (1:100),

4318 31 *for* ≮±3%. *read* ≯±3%.

4342 8, 9 *for* 2-methylfurfuraldehyde *read* 5-methyl-2-furaldehyde

4349 5 *for* (≃0·1M each) *read* (≃0·1mM in each)

4356 20 *for* relative error of ±10% *read* relative error of <±10%

4370 7 *for* ≮85%, *read* ≯85%,

4408 3 *for* F. A. Hoffmann *read* F. A. Hoffman

4427 2 *after* **media.** *insert* **II.**

4427 3 *for* H. Kaufeld *read* H. Kanfeld

4482 23 *for* ro *read* or

4492 30 *for* 10^{-4} to 10mM. *read* 10^{-4} to 10^{-5}mM.

4513 3 *for* Shunji Ishikuro *read* Shunji Ishikura

4514 3 *for* Yutaka Asah *read* Yutaka Asahi

4571 9 *insert*) *after* Br^-

4692 2 *for* Yasushi Hasegowa *read* Yasushi Hasegawa

4710 12 for NY_4SCN *read* NH_4SCN

4949 3 *for* Masao Muruyama *read* Masao Maruyama

4950 26 *for* (3 ml) of acetic acid *read* (3 ml of acetic acid

4980 14 *for* propane-1,3-diol *read* propane-1,2-diol

4993 4 *for* A. Jovchev *read* A. Iovchev

4999 10 *for* load *read* lead

5070 7 *after* (*Anal. Abstr.*, 1955, **2**, 3161) *insert* . It

5123 1 *for* **Electrography.** *read* **Elatography.**

5142 2 *for* M. Lemaître *read* P. Lemaître

5166 13, 14 *the right-hand side of the equation should read* **II** (mg per litre found) × 100/(B + 0·51A).

5198 8 *insert a semi-colon before* only

5314 35 *for* L. D. Metcalf *read* L. D. Metcalfe

5367 21 *delete complete line*

5382 16 *for* at ratios >1:1 *read* at ratios <1:1

5385 17 *for* (1 ml >2·5 μg of Cr) *read* (1 ml ≡2·5 μg of Cr)

5395 10 *for* (activity 10_5 to 10_7 counts per min.) *read* (activity 10^5 to 10^7 counts per min.)

5416 2 *for* R. Řezáč *read* Z. Řezáč

5449 11 *for* (**II**) *read* (**I**)

5457 5 *for* citric acid. W^{VI} *read* citric acid, W^{VI}

5457 9 *for* W^{VI} *read* W^{V}

5641 22 *for* K_2SO_3 *read* K_2CO_3

5648 6 *Insert* hydrolysed *before* protein

5695 3 *for* W. Rutkowska *read* U. Rutkowska

5734 6 *for* many *read* may

5742 3 *for* 24 *read* 29

5756 2 *for* Goichiro Katsuki *read* Goichiro Katsui

5768 1, 2 *for* J. Hernando *read* V. Hernando

Cross references after abstract 4561, line 10, *after* products. *insert* **4589**, Determination of ethoxyquin in food products.

Cross references after abstract 4561, *delete line* 11

+
eth-

k.,

100/

rquin